

Appl. No. 10/708,983
Amdt. dated August 14, 2006
Reply to Office action of May 17, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

5 Listing of Claims:

1. (original): A method of fabricating a semiconductor device comprising:
 - providing a substrate;
 - sequentially forming a first organic layer, a sacrificial layer, and a second organic layer on the substrate;
 - 10 performing a photolithography process for forming a predetermined pattern in the second organic layer;
 - utilizing the second organic layer as an etching mask for etching the sacrificial layer till a surface of the first organic layer is exposed, thus the predetermined pattern being transferred to the sacrificial layer;
 - 15 utilizing the sacrificial layer as an etching mask for etching the first organic layer till a surface of the substrate is exposed, thereby the predetermined pattern being transferred to the first organic layer;
 - utilizing the sacrificial layer and the first organic layer as an etching mask for etching the substrate, thereby transferring the predetermined pattern to the substrate;
 - 20 and
 - removing the first organic layer by use of plasma.
2. (original): The method of claim 1 wherein the first organic layer is made of a material selected from the group consisting of low dielectric organic materials and spin-on glass (SOG).
- 25 3. (original): The method of claim 1 wherein the plasma is selected from the group

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consisting of oxygen (O₂), nitrogen (N₂), hydrogen (H₂), argon (Ar), C_xF_y, C_xH_yF_z,
and helium (He) plasma.

5 4. (previously presented): The method of claim 1 wherein the sacrificial layer is made of
silicon nitride.

5. (previously presented): The method of claim 1 wherein the second organic layer is
made of an organic photoresist material capable of absorbing light sources with
wavelengths shorter than 248nm in deep UV regions.

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6. (original): The method of claim 1 wherein the second organic layer is suitable for an
e-beam lithography process.

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7. (original): The method of claim 1 wherein the substrate is selected from the group
consisting of a silicon substrate, a metal substrate, and a dielectric layer.

8. (previously presented): The method of claim 1 wherein the sacrificial layer is made of
silicon oxide.

20 9. (canceled)

10. (previously presented): The method of claim 1 wherein the sacrificial layer is
removed concurrently while etching the substrate.

25 11. (canceled)

12. (previously presented): The method of claim 1 wherein the method further comprises
forming an anti-reflection layer on the sacrificial layer before forming the second

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organic layer.

13. (previously presented): The method of claim 12 wherein the anti-reflection layer comprises organic materials.

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14. (previously presented): The method of claim 12 wherein the anti-reflection layer comprises inorganic materials.